

Work Order ID 138067

October 22, 2015 12:51:29 PM

138067

Rush - Needed for D3805

Ship Nov 6

Page 1

Item ID: D3805-5 Accept *N9000040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Plate
 Start Date: 10/22/2015 Start Qty: 3.00 *3* Cust Item ID:
 Required Date: 11/5/2015 Req'd Qty: 3.00 *3* Customer:
 Reference:

Approvals: Process Plan: JH Date: 2 015 10 23 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start *NR1*
 Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3805	C

100 0.00
 100
 Waterjet
 FLOW CNC Waterjet

Memo
 1-Cut as per Dwg D3805
 Dwg Rev: C
 Prog Rev: C
 2-Deburr if necessary

(3)

02/15/10/23

110 0.00
 110
 QC
 Quality Control

Memo

(3)

02/15/10/23

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Page 2

DAS
38
9-88
OCT 26 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 138067

October 22, 2015 12:51:29 PM

138067

Page 3

Item ID: D3805-5 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Plate
Start Date: 10/22/2015 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 11/5/2015 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <i>W/KW</i>	0.00							
150									
Packaging	Memo	0.00							
Packaging	LOCATION WA001								
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.01							
Quality Control									

SH 20151026

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY																																																																																																																											
Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	No Re-verification	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	Pressure/Forced	☐	Bending	☐	Centre Not Concentric	☐	Cracks	☐	Crimp/Kink/Ripple/Wave	☐	Cuffs	☐	Crushing	☐	Heat Treat	☐	Wave/Twist in Tube	☐	Marks/Chatter	☐	Temperature/Cure	☐	Set-up	☐	BOM/Route	☐	Broken/Damage/Defect	☐	Inspection Incomplete/Unqualified	☐	Contamination	☐	Countersink	☐	Cut Too Short	☐	Instructions Incomplete/Unclear	☐	Drill Holes	☐	Power Loss/Surge	☐	Folio/Program	☐	Grain	☐	Weld	☐	Wrong Stock Pulled	☐	Out of Sequence	☐	Off-set	☐	Mislabeled	☐	Fit/Function	☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐
OTHER : ☐																																																																																																																															

Picklist Print

October 22, 2015 12:58:32 PM

Page 1

Work Order ID: 138067

138067

Parent Item: D3805-5

D3805-5

Parent Item Name: Plate

Start Date: 10/22/2015

Required Date: 11/5/2015

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP Rev:A 08-12-01 new issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S18GA		Purchased		No		100	sf	302.8000	1.587	5.011579			

M304S18GA

304/316 .050 Sheet

02/15/10/23

Location

Loc Qty

Loc Code

MAT020

292.3

M128435

22.9

M132797

5

M133328

264.4

MAT20

10.5

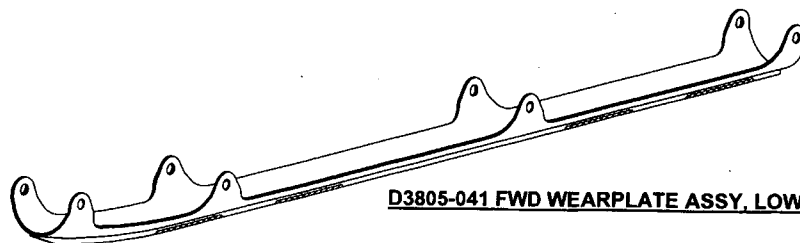
M131700

10.5

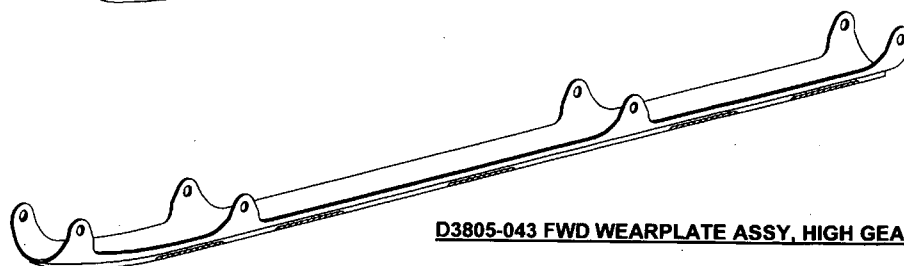
6.6

8 7 6 5 4

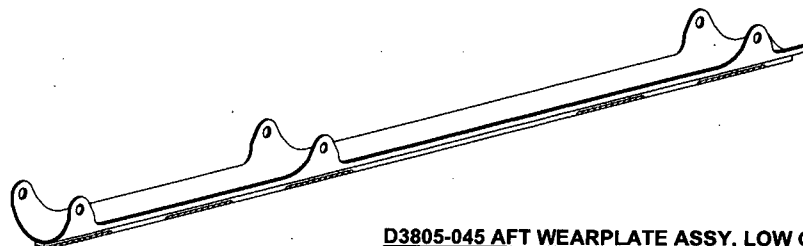
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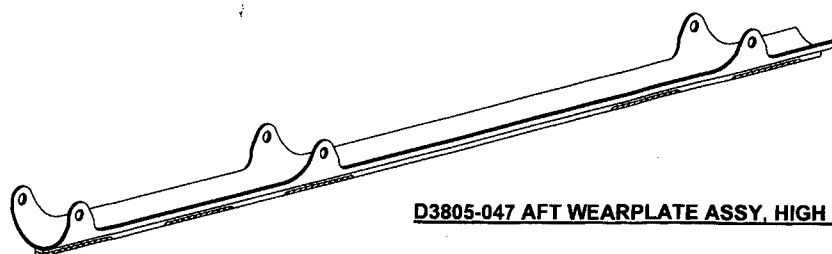
D3805-041 FWD WEARPLATE ASSY, LOW GEAR



D3805-043 FWD WEARPLATE ASSY, HIGH GEAR



D3805-045 AFT WEARPLATE ASSY, LOW GEAR



D3805-047 AFT WEARPLATE ASSY, HIGH GEAR

8 7 6 5 4

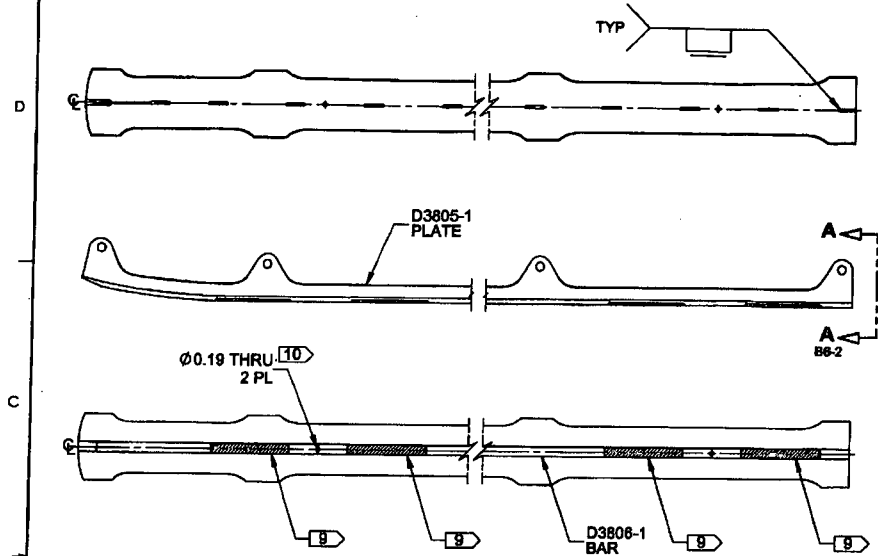
ITEM	QTY -041	QTY -043	QTY -045	QTY -047	P/N	DESCRIPTION
1	X				D3805-041	FWD WEARPLATE ASSY, LOW GEAR
2		X			D3805-043	FWD WEARPLATE ASSY, HIGH GEAR
3			X		D3805-045	AFT WEARPLATE ASSY, LOW GEAR
4				X	D3805-047	AFT WEARPLATE ASSY, HIGH GEAR
11	1				D3805-1	PLATE
12		1			D3805-3	PLATE
13			1		D3805-5	PLATE
14				1	D3805-7	PLATE
15	1				D3806-1	BAR
16		1			D3806-3	BAR
17			1		D3806-5	BAR
18				1	D3806-7	BAR
31	A/R	A/R	A/R	A/R	2059B	HARDCOAT

RELEASED
2014-04-17

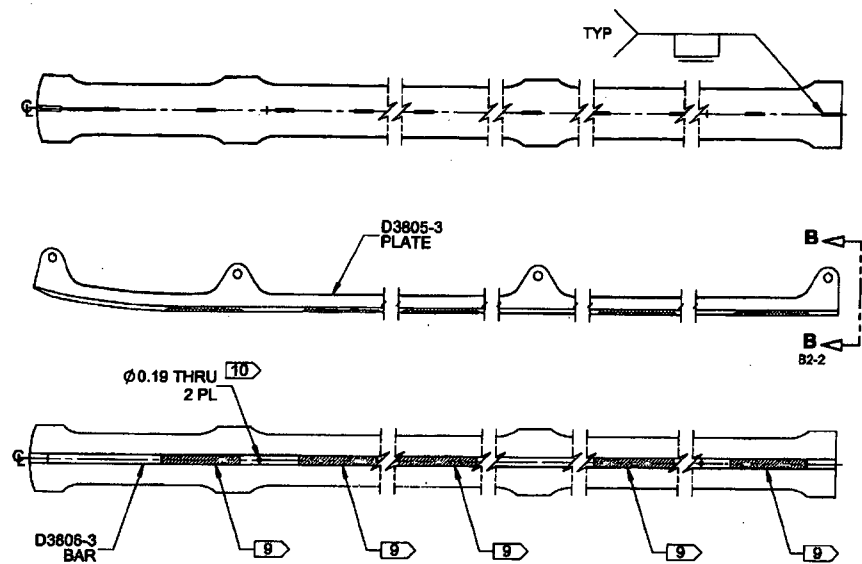
20151022 SH 138067

C	REMOVE ITEMS 19, 20, 21, 22 AND 32 FROM BOM (ZN C4-1), REVISE NOTE 11, SHEETS 2&3 (ZN A8-2, B2-2, B6-2, A8-3, B2-3, B6-3)	DB	13.10.04
B	REVISED D3805-1F/-3F TO EASE MANUFACTURABILITY (ADDED CUTOUT AT FWD END OF PLATE PER PAR11-106) AND RE-ORGANIZED NOTES SHEETS 2 & 3	MB	11.09.16
A	NEW ISSUE	MB	08.11.21
REV.	DESCRIPTION	BY	DATE
DESIGN	92	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.		D3805	SHEET 1 OF 8
APPROVED	MB	TITLE	SCALE
DE APPR.		WEARPLATE ASSY	NTS
DATE	13.10.04	COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE, OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

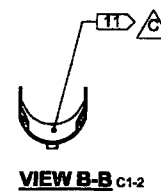
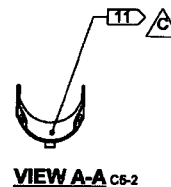
8 7 6 5 4 3 2 1



D3805-041 FWD WEARPLATE ASSY, LOW GEAR



D3805-043 FWD WEARPLATE ASSY, HIGH GEAR



RELEASED
2014-04-13

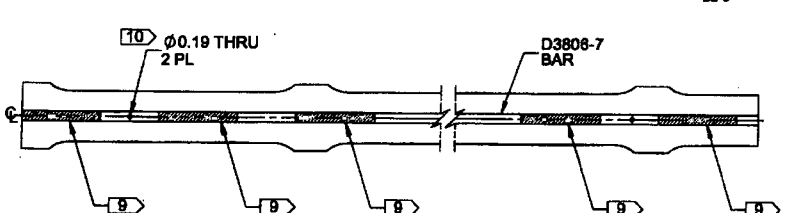
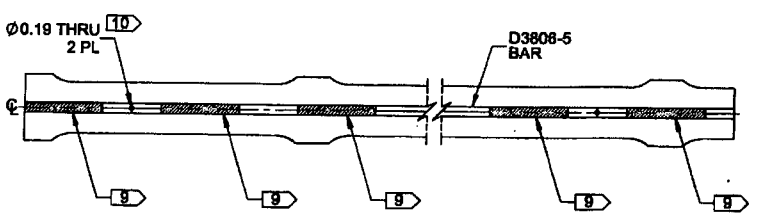
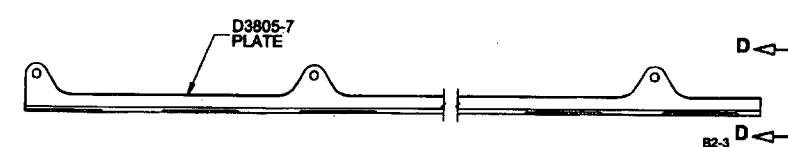
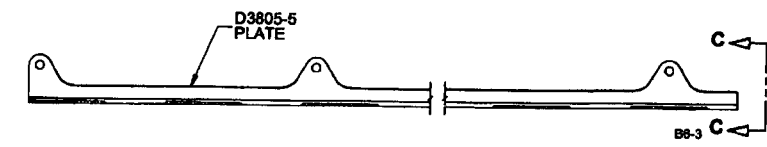
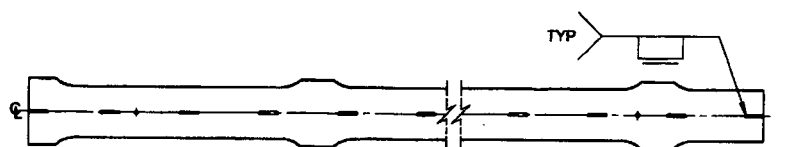
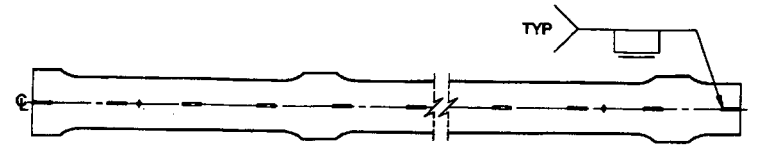
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3805-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D3805-041 = 4.18 lbs; D3805-043 = 4.78 lbs
- 8) WELDING: PER QSI 004
- 9) 2059B HARDCOAT WELD, 0.19 THICK X 0.50 WIDE, FLUSH WITH D3806-X BAR ON ALL 3 SURFACES
- 10) AFTER WELDING, TRANSFER DRILL THRU BAR FROM PLATE
- 11) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020 - 0.040 THICK, PER DART QSI 006 4.9.

DESIGN	Q	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	AS	DRAWING NO.	REV. C
MFG. APPR.	AS	D3805	SHEET 2 OF 8
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	WEARPLATE ASSY	NTS
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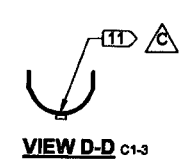
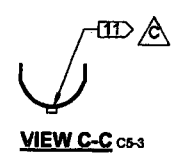
8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1



D3805-045 AFT WEARPLATE ASSY.

D3805-047 AFT WEARPLATE ASSY.



RELEASED
2014-04-17

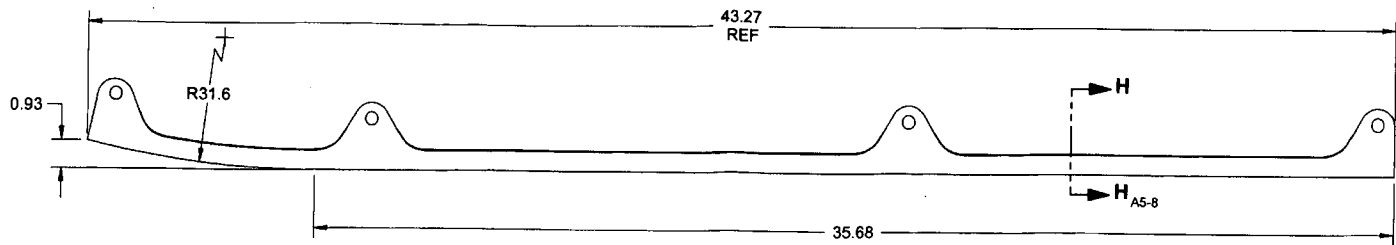
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3805-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D3805-045 = 4.24 lbs; D3805-047 = 4.53 lbs
- 8) WELDING: PER QSI 004
- 9) 2059B HARDCOAT WELD, 0.19 THICK X 0.50 WIDE, FLUSH WITH D3806-X BAR ON ALL 3 SURFACES
- 10) AFTER WELDING, TRANSFER DRILL THRU BAR FROM PLATE
- 11) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020 - 0.040 THICK, PER DART QSI 005 4.8.

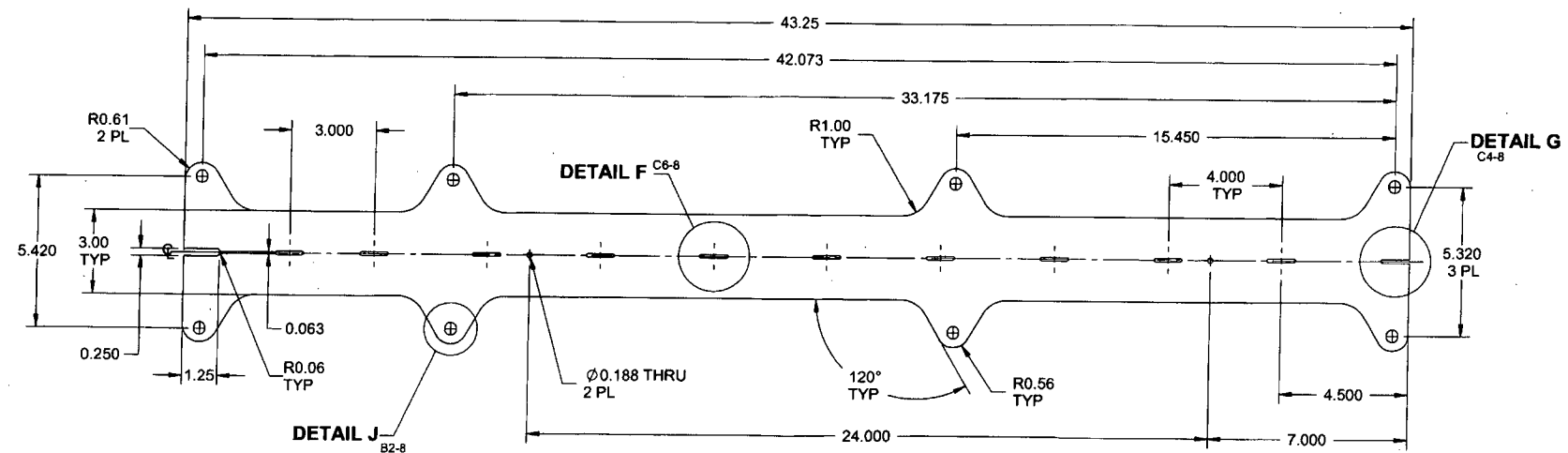
DESIGN	90	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	ALS	DRAWING NO.	REV. C
MFG. APPR.		D3805	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE ASSY	NTS
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1



D3805-1 PLATE
(MAKE FROM D3805-1F)



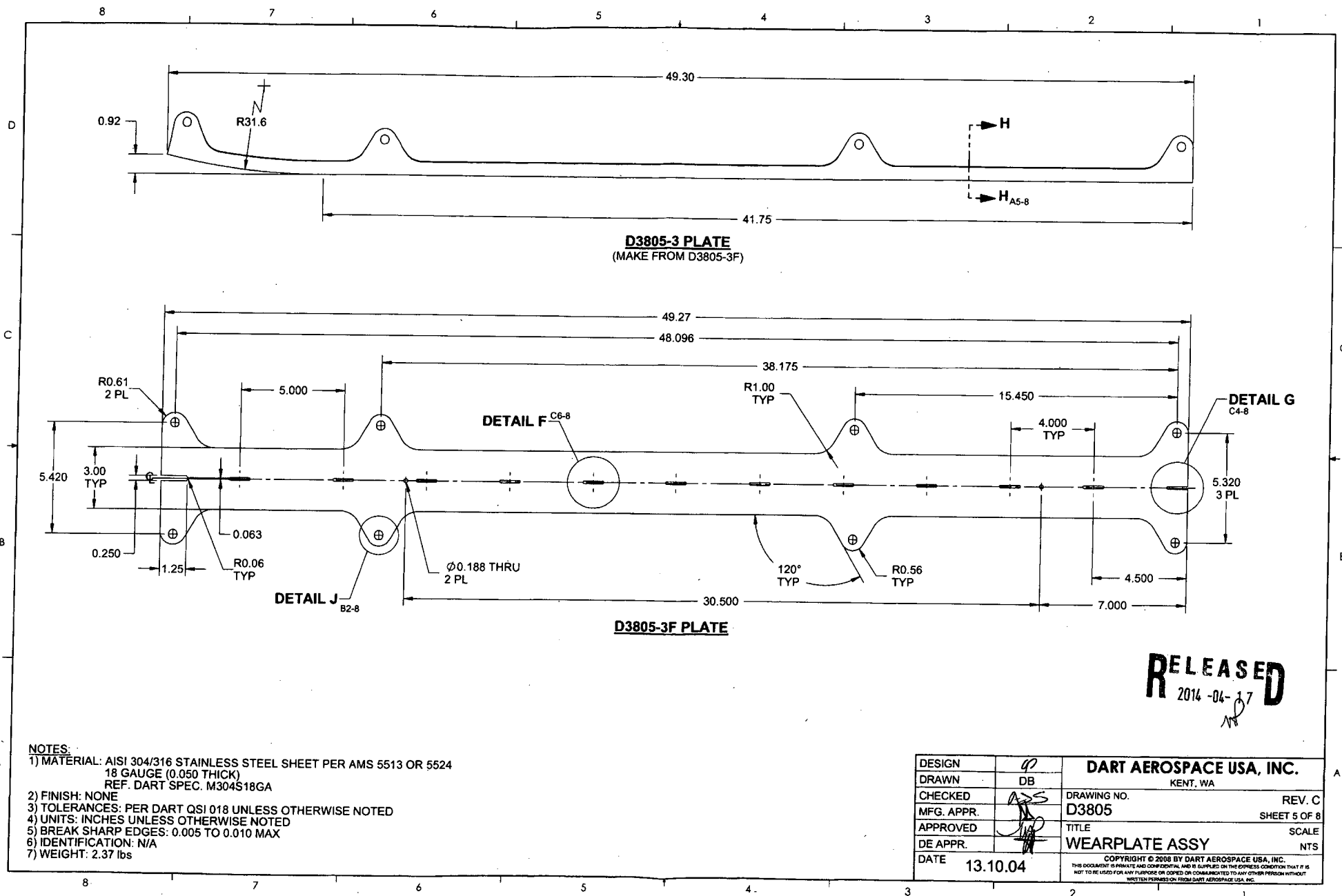
D3805-1F PLATE

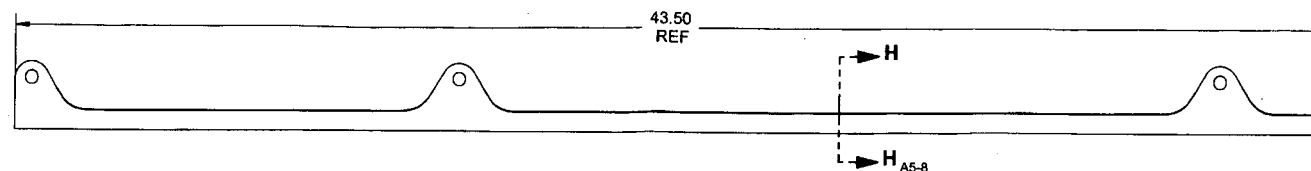
RELEASED
2014-04-17
WIP

- NOTES:**
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER AMS 5513 OR 5524
18 GAUGE (0.050 THICK)
REF. DART SPEC. M304S18GA
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 2.11 lbs

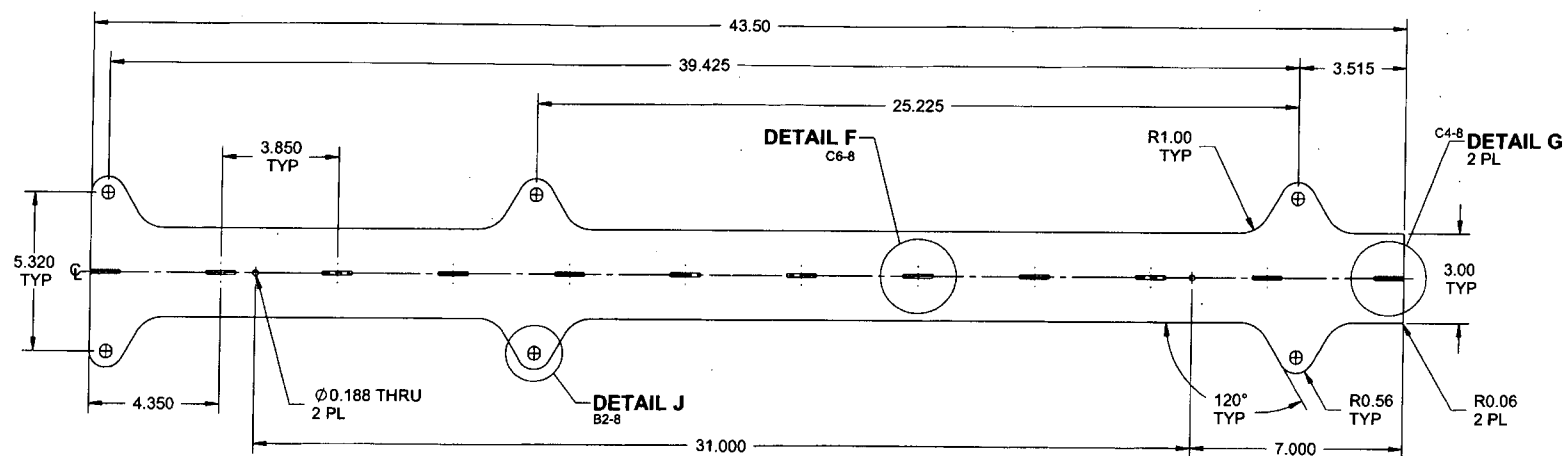
DESIGN	9	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.		D3805	SHEET 4 OF 8
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE ASSY	NTS
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8 7 6 5 4 3 2 1





D3805-5 PLATE
(MAKE FROM D3805-5F)



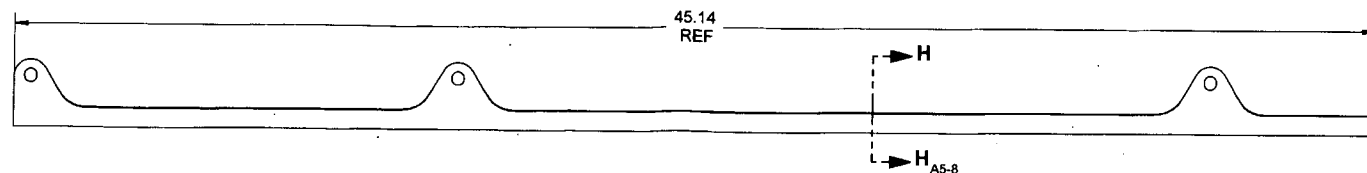
D3805-5F PLATE

RELEASED
2014-04-17

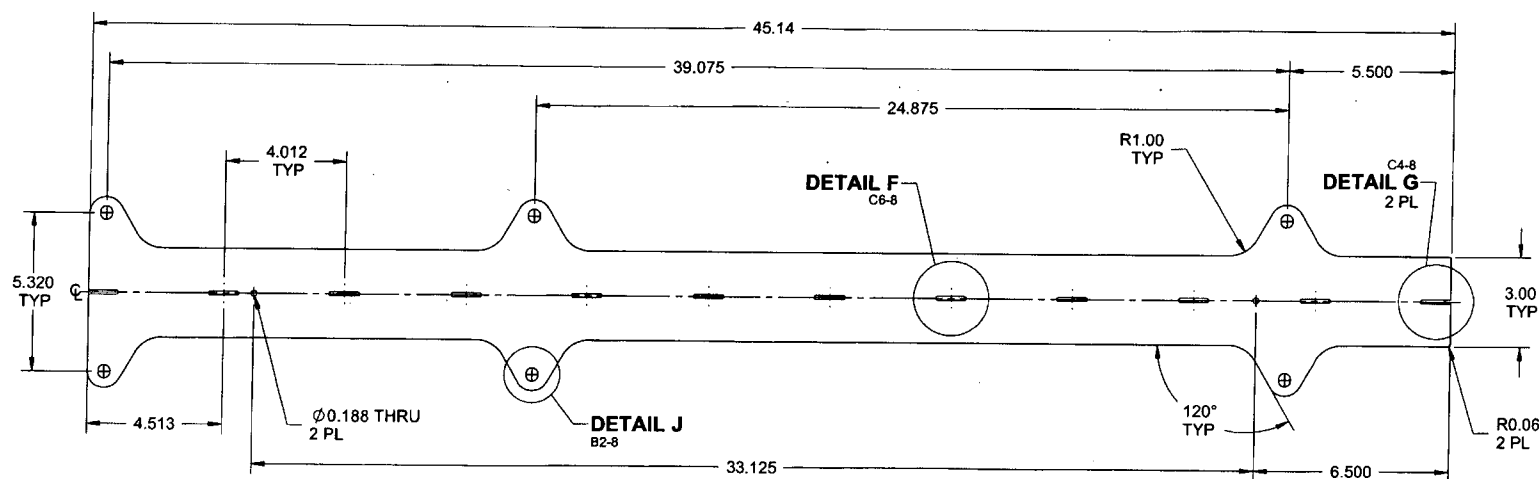
NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER AMS 5513 OR 5524
18 GAUGE (0.050 THICK)
REF. DART SPEC. M304S18GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 2.06 lbs

DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	AS	DRAWING NO.	REV. C
MFG. APPR.	AS	D3805	SHEET 6 OF 8
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	WEARPLATE ASSY	NTS
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D3805-7 PLATE
(MAKE FROM D3805-7F)

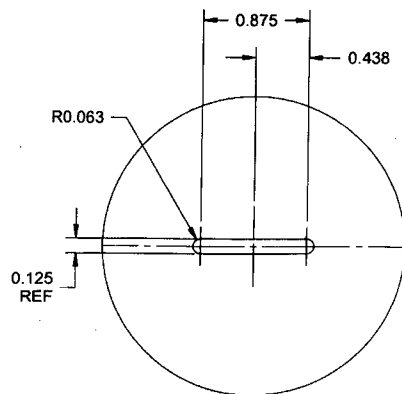


D3805-7F PLATE

RELEASED
2014-06-17

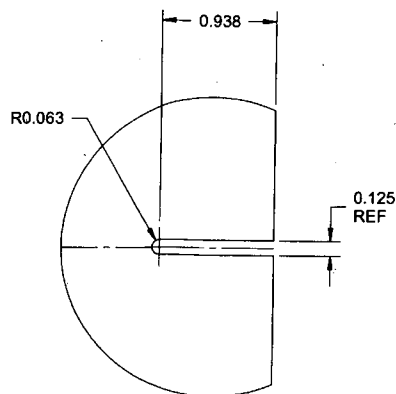
- NOTES:**
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER AMS 5513 OR 5524
18 GAUGE (0.050 THICK)
REF. DART SPEC. M304S18GA
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 2.13 lbs

DESIGN	97	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.		D3805	SHEET 7 OF 8
APPROVED		TITLE	SCALE
DE APPR.		WEARPLATE ASSY	NTS
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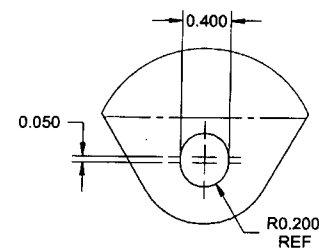
DETAIL F
SLOT DETAIL TYP
SCALE 4X

C5-4
C5-5
C4-6
C4-7



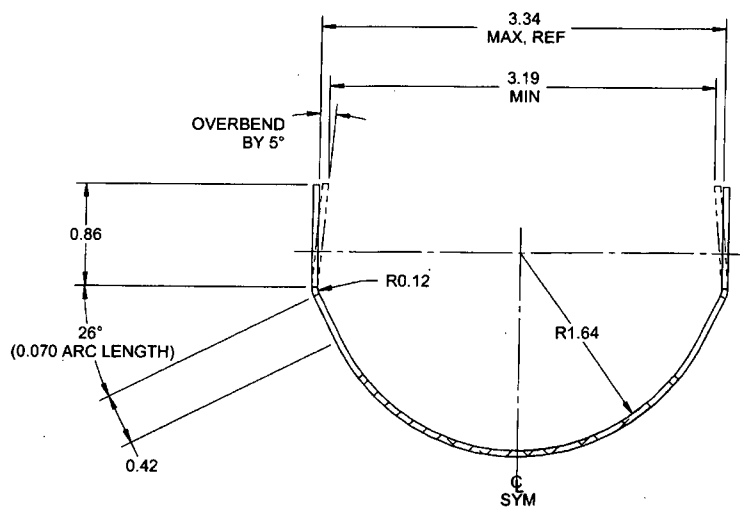
DETAIL G
SLOT DETAIL TYP
SCALE 4X

C1-4
C1-5
C1-6
C2-7



DETAIL J
SCALE 4X

B6-4
B7-5
B5-6
B5-7



SECTION H-H
SCALE 4X

D3-4
D3-5
D3-6
D3-7

RELEASED
2014-04-17

DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.		D3805	SHEET 8 OF 8
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